

=> fil reg
FILE 'REGISTRY' ENTERED AT 11:50:50 ON 14 NOV 2008
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STRUCTURE FILE UPDATES: 13 NOV 2008 HIGHEST RN 1072687-23-0
DICTIONARY FILE UPDATES: 13 NOV 2008 HIGHEST RN 1072687-23-0

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d his nofile

(FILE 'HOME' ENTERED AT 10:38:18 ON 14 NOV 2008)

FILE 'HCAPLUS' ENTERED AT 10:38:32 ON 14 NOV 2008

L1 1 SEA ABB=ON PLU=ON US20060052533/PN
D SCA
D IALL
SEL RN

FILE 'REGISTRY' ENTERED AT 10:39:00 ON 14 NOV 2008

L2 4 SEA ABB=ON PLU=ON (111-30-8/BI OR 28388-89-8/BI OR
51651-40-2/BI OR 9002-89-5/BI)
D SCA

FILE 'HCAPLUS' ENTERED AT 10:39:18 ON 14 NOV 2008

L3 1 SEA ABB=ON PLU=ON L1 AND L2
D HITSTR

FILE 'REGISTRY' ENTERED AT 10:44:36 ON 14 NOV 2008

L4 1 SEA ABB=ON PLU=ON 9002-89-5/RN
L5 1 SEA ABB=ON PLU=ON 28388-89-8/RN

FILE 'LREGISTRY' ENTERED AT 11:07:52 ON 14 NOV 2008

L6 STR

FILE 'REGISTRY' ENTERED AT 11:08:31 ON 14 NOV 2008

L7 0 SEA SSS SAM L6

FILE 'REGISTRY' ENTERED AT 11:10:03 ON 14 NOV 2008

L8 1 SEA ABB=ON PLU=ON 111-30-8/RN
D SCA
L9 1 SEA ABB=ON PLU=ON 51651-40-2/RN

D SCA

FILE 'LREGISTRY' ENTERED AT 11:11:12 ON 14 NOV 2008

L10 1872 SEA ABB=ON PLU=ON ?ALDEHYDE/CNS
L11 813 SEA ABB=ON PLU=ON ?ALDEHYDE/CNS AND 3/ELC.SUB
L12 146 SEA ABB=ON PLU=ON L11 NOT NR>=1 NOT (M OR N OR S OR SI
OR P)/ELS
L13 14 SEA ABB=ON PLU=ON L12 AND ?DIAL?/CNS

FILE 'REGISTRY' ENTERED AT 11:14:27 ON 14 NOV 2008

L14 2661 SEA ABB=ON PLU=ON ?ALDEHYDE/CNS AND 3/ELC.SUB NOT
NR>=1 NOT (M OR N OR S OR SI OR P)/ELS
L15 196 SEA ABB=ON PLU=ON L14 AND ?DIAL?/CNS
L16 1 SEA ABB=ON PLU=ON ETHANEDIAL/CN
L17 195 SEA ABB=ON PLU=ON L15 NOT L16
L18 170 SEA ABB=ON PLU=ON L17 NOT PMS/CI
L19 112 SEA ABB=ON PLU=ON L18 NOT OXY
D COST
L20 92 SEA ABB=ON PLU=ON L19 NOT ?HYDROXY?/CNS
L21 2 SEA ABB=ON PLU=ON L2 AND L20
D COST
SAV L20 BER019A/A
DEL BER019A/A
SAV L20 BER019F5/A
L22 2 SEA ABB=ON PLU=ON L4 OR L5

FILE 'HCAPLUS' ENTERED AT 11:25:14 ON 14 NOV 2008

L23 77031 SEA ABB=ON PLU=ON L22
L24 27796 SEA ABB=ON PLU=ON L20
L25 842 SEA ABB=ON PLU=ON L23 AND L24
L26 1875 SEA ABB=ON PLU=ON L22 (L) RACT/RL
L27 3596 SEA ABB=ON PLU=ON L20 (L) RACT/RL
L28 63 SEA ABB=ON PLU=ON L26 AND L27
L29 37 SEA ABB=ON PLU=ON L28 AND (PY<=2003 OR PRY<=2003 OR
AY<=2003)
L30 QUE ABB=ON PLU=ON CROSSLINK? OR CROSS?(A) LINK?
L31 21 SEA ABB=ON PLU=ON L29 AND L30
L32 2154 SEA ABB=ON PLU=ON L22 (L) L30
L33 2532 SEA ABB=ON PLU=ON L20 (L) L30
L34 9 SEA ABB=ON PLU=ON L31 AND L32
L35 13 SEA ABB=ON PLU=ON L31 AND L33
L36 8 SEA ABB=ON PLU=ON L34 AND L35

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OR 1132-61-2/BI OR 115724-21-5/BI OR 128114-91-0/BI OR
161308-36-7/BI OR 193749-88-1/BI OR 26403-72-5/BI OR
28388-89-8/BI OR 4432-31-9/BI OR 50-00-0/BI OR 51651-40-2
/BI OR 555-16-8/BI OR 58-55-9/BI OR 60-18-4/BI OR
638-37-9/BI OR 64431-96-5/BI OR 68399-77-9/BI OR
68399-80-4/BI OR 6976-37-0/BI OR 71-00-1/BI OR 7365-45-9/
BI OR 78274-32-5/BI OR 9001-22-3/BI OR 9003-20-7/BI OR
9003-39-8/BI OR 9004-34-6/BI OR 9012-76-4/BI OR 92451-01-
9/BI)

FILE 'HCAPLUS' ENTERED AT 11:47:37 ON 14 NOV 2008

L38 473721 SEA ABB=ON PLU=ON L37
L39 8 SEA ABB=ON PLU=ON L36 AND L38
SEL L31 RN

L40 13 SEA ABB=ON PLU=ON L31 NOT L39
SEL RN L40

FILE 'REGISTRY' ENTERED AT 11:49:14 ON 14 NOV 2008

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106-89-8/BI OR 107-02-8/BI OR 50-00-0/BI OR 74401-04-0/BI
OR 9002-88-4/BI OR 9005-25-8/BI OR 9012-76-4/BI OR
100-52-7/BI OR 10043-01-3/BI OR 104-55-2/BI OR 104-67-6/B
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62-54-4/BI OR 623-27-8/BI OR 626-19-7/BI OR 62893-20-3/BI
OR 638-37-9/BI OR 67-64-1/BI OR 71-36-3/BI OR 74-85-1/BI
OR 7487-88-9/BI OR 75-01-4/BI OR 7585-39-9/BI OR
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9057-06-1/BI OR 94-36-0/BI OR 98-59-9/BI)

FILE 'HCAPLUS' ENTERED AT 11:49:28 ON 14 NOV 2008

L42 2369478 SEA ABB=ON PLU=ON L41
L43 13 SEA ABB=ON PLU=ON L40 AND L42

=> fil hcap

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FILE COVERS 1907 - 14 Nov 2008 VOL 149 ISS 21
FILE LAST UPDATED: 13 Nov 2008 (20081113/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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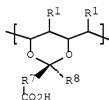
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d ibib abs hitstr hitind 139 1-8

L39 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:587942 HCAPLUS Full-text
DOCUMENT NUMBER: 141:124156
TITLE: Crosslinking of poly(vinyl acetals)
INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler, Matthias
PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319201	A1	20040722	DE 2003-10319201	20030429
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WO 2004063231	A1	20040729	WO 2003-EP14109	20031212
			<--	
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RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2003294838	A1	20040810	AU 2003-294838	20031212
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BR 2003017977	A	20051206	BR 2003-17977	

				200312 12
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EP 1622946	A1	20060208	EP 2003-785800	200312 12
			<--	
CN 1759125	A	20060412	CN 2003-80110133	200312 12
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CN 100343288 JP 2006513284	C T	20071017 20060420	JP 2004-565965	200312 12
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US 20060052533	A1	20060309	US 2005-542019	200507 11
			<--	
PRIORITY APPLN. INFO.:			DE 2003-10300321	IA 200301 09
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			DE 2003-10319201	A 200304 29
			<--	
			WO 2003-EP14109	W 200312 12
			<--	
GI				



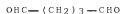
AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 ($\text{R1} = \text{H, Me}$), i.e., poly(vinyl alc.) or poly(propenyl alc.), and optionally structural units (2) CHO2CR2CHR1 ($\text{R2} = \text{H, C1-6 alkyl}$), (3) CR5R6CR3R4 ($\text{R3-R6} = \text{residues with mol. weight 1-500 g/mol}$) and acetal units I [$\text{R7} = \text{bond, C1-10 alkylene, (un)substituted C6-12 arylene}$; $\text{R8} = \text{H, CO2H, C1-10 alkyl, (un)substituted C6-12 aryl}$] with a polyaldehyde R9(CHO)n ($\text{R9} = \text{C1-40 residue; } n \geq 2$), e.g., pentanedial or nonanedial, and with esterification of structural units (1) with structural units I. The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

November 14, 2008

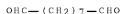
10/542,019

6

IT 111-30-8, Glutardialdehyde 51651-49-2,
1,9-Nonanedial
RL: RCT (Reactant); PACT (Reactant or reagent)
(crosslinking agent; crosslinking of
poly(vinyl acetals) with polyaldehydes)
RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)



RN 51651-40-2 HCAPLUS
CN Nonanedial (CA INDEX NAME)



IT 9002-89-5, Poly(vinyl alcohol) 26388-89-8,
Poly(propenyl alcohol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of poly(vinyl acetals) with
polyaldehydes)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RN 28388-89-8 HCAPLUS
CN 1-Propen-1-ol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 3965-44-4
CMF C3 H6 O



IC ICM C08F008-28
ICS C08F008-14; C08F016-00
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 74, 76
ST polyvinyl acetal crosslinking polyaldehyde; dialdehyde
crosslinking agent polyvinyl acetal
IT Windshields

- (automotive; crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT Coating materials
Crosslinking
Plastic films
(crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT Polyvinyl acetals
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT Safety glass
RL: TEM (Technical or engineered material use); USES (Uses)
(laminated safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT Crosslinking agents
(polyaldehydes; crosslinking of poly(vinyl acetals) with)
- IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyfunctional, crosslinking agents; crosslinking of poly(vinyl acetals) with)
- IT Laminated glass
RL: TEM (Technical or engineered material use); USES (Uses)
(safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT 111-30-9, Glutardialdehyde 51651-46-2,
1,9-Nonanedial
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)
- IT 9992-69-5, Poly(vinyl alcohol) 28388-69-8,
Poly(propenyl alcohol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of poly(vinyl acetals) with polyaldehydes)

L39 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 2003:396921 HCAPLUS Full-text

DOCUMENT NUMBER: 138:403265

TITLE: Gel composition, use and method to homogeneously modify or crosslink chitosan under neutral conditions

INVENTOR(S): Chenite, Abdellatif; Berrada, Mohammed; Chaput, Cyril; Dabbarh, Fouad; Selmani, Amine

PATENT ASSIGNEE(S): Biosyntech Canada Inc., Can.

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003042250	A1	20030522	WO 2002-CA1756	20021115

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2467049 A1 20030522 CA 2002-2467049 20021115

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AU 2002342462 A1 20030526 AU 2002-342462 20021115

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US 20030129730 A1 20030710 US 2002-298257 20021115

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US 7098194 B2 20060829
EP 1448607 A1 20040825 EP 2002-779062 20021115

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRIORITY APPLN. INFO.: US 2001-331415P P 20011115

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WO 2002-CA1756 W 20021115

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AB The title method for chemical modifying chitosan, includes N-substituting or N-crosslinking, under homogeneous conditions, neutral aqueous chitosan solns. The method comprises (i) preparing a clear aqueous solution of chitosan, the solution comprising 0.1-10% chitosan, and 0.1-20% ≥ 1 buffering agent having a pKa 6.0-7.6, the solution having a pH 6.8-7.2 and (ii) dissolving homogeneously ≥ 1 reagent into the solution of step (a), the reagent being reactive toward amine groups of chitosan, and the reagent at a concentration 0.01-10 wt%. The chitosan in the aqueous solution is chemical modified or crosslinked by a selective substitution on the amino group of chitosan.

IT 107-22-2, Glyoxal 26403-72-5, Polyethylene glycol diglycidyl ether

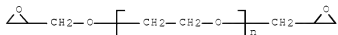
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; modifying or crosslinking
chitosan under neutral conditions)

RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)

RN 26403-72-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-oxiranylmethyl)- ω -(2-oxiranylmethoxy)- (CA INDEX NAME)



IT 50-00-0, Formaldehyde, reactions 111-30-8,
 Glutaraldehyde 9002-89-5, Poly(vinyl alcohol)
 9003-39-8, Poly(vinylpyrrolidone) 126114-91-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for modifying or crosslinking chitosan under neutral
 conditions)

RN 50-00-0 HCAPLUS

CN Formaldehyde (CA INDEX NAME)



RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9003-39-8 HCAPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (CA INDEX NAME)

CM 1

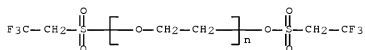
CRN 88-12-0

CMF C6 H9 N O



RN 128114-91-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[(2,2,2-trifluoroethyl)sulfonyl]-
 ω -[(2,2,2-trifluoroethyl)sulfonyl]oxy)- (9CI) (CA INDEX
 NAME)

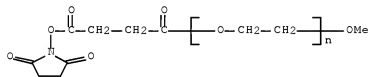


IT 78274-32-5 92451-01-9

RL: RCT (Reactant); RACT (Reactant or reagent)
 (grafting; modifying or crosslinking chitosan under
 neutral conditions)

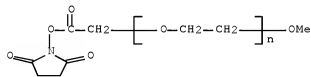
RN 78274-32-5 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[4-[(2,5-dioxo-1-pyrrolidinyl)oxy]-
 1,4-dioxobutyl]- ω -methoxy- (CA INDEX NAME)



RN 92451-01-9 HCAPLUS

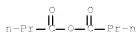
CN Poly(oxy-1,2-ethanediyl), α -[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]-
 2-oxoethyl]- ω -methoxy- (CA INDEX NAME)



IT 106-31-0DP, Butyric anhydride, reaction products with
 chitosan 108-24-7DP, Acetic anhydride, reaction products
 with chitosan 9012-76-4DP, Chitosan, reaction products
 with acetic or butyric anhydride 193749-88-1P,
 Chitosan-polyethylene glycol graft copolymer

RL: IMF (Industrial manufacture); PREP (Preparation)
 (modifying or crosslinking chitosan under neutral
 conditions)

RN 106-31-0 HCAPLUS
 CN Butanoic acid, 1,1'-anhydride (CA INDEX NAME)



RN 108-24-7 HCAPLUS
 CN Acetic acid, 1,1'-anhydride (CA INDEX NAME)



RN 9012-76-4 HCAPLUS
 CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 193749-88-1 HCAPLUS
 CN Chitosan, polymer with oxirane, graft (CA INDEX NAME)

CM 1

CRN 9012-76-4
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

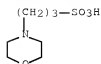
CM 2

CRN 75-21-8
 CMF C2 H4 O



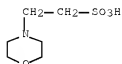
IT 1132-61-2, 4-Morpholinepropanesulfonic acid
 4432-31-9, 2-Morpholinoethanesulfonic acid 6976-37-0
 , 2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol
 7365-45-9, 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic
 acid 16191-18-1, N,N-Bis(2-hydroxyethyl)-2-
 aminoethanesulfonic acid 64431-96-5,
 1,3-Bis[tris(hydroxymethyl)methylamino]propane 68399-77-9
 68399-88-4 115724-21-5, 4-Morpholinebutanesulfonic
 acid 161308-36-7
 RL: RGT (Reagent); RACT (Reactant or reagent)
 (modifying or crosslinking chitosan under neutral
 conditions)

RN 1132-61-2 HCAPLUS
 CN 4-Morpholinepropanesulfonic acid (CA INDEX NAME)

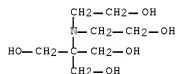


RN 4432-31-9 HCAPLUS

CN 4-Morpholineethanesulfonic acid (CA INDEX NAME)

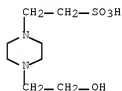


RN 6976-37-0 HCAPLUS

CN 1,3-Propanediol, 2-[bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-
(CA INDEX NAME)

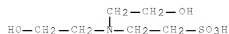
RN 7365-45-9 HCAPLUS

CN 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (CA INDEX NAME)



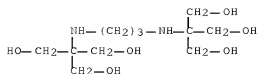
RN 10191-18-1 HCAPLUS

CN Ethanesulfonic acid, 2-[bis(2-hydroxyethyl)amino]- (CA INDEX NAME)

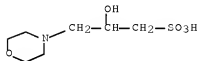


RN 64431-96-5 HCAPLUS

CN 1,3-Propanediol, 2,2'-(1,3-propanedioldiimino)bis[2-(hydroxymethyl)-
(CA INDEX NAME)]

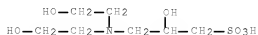


RN 68399-77-9 HCAPLUS

CN 4-Morpholinepropanesulfonic acid, β -hydroxy- (CA INDEX NAME)

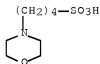
RN 68399-80-4 HCAPLUS

CN 1-Propanesulfonic acid, 3-[bis(2-hydroxyethyl)amino]-2-hydroxy- (CA INDEX NAME)



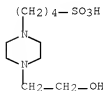
RN 115724-21-5 HCAPLUS

CN 4-Morpholinebutanesulfonic acid (CA INDEX NAME)



RN 161308-36-7 HCAPLUS

CN 1-Piperazinebutanesulfonic acid, 4-(2-hydroxyethyl)- (CA INDEX NAME)



IC ICM C08B037-08

CC 44-5 (Industrial Carbohydrates)

ST chitosan crosslinking chem modification

IT Hydrogels
(modifying or crosslinking chitosan under neutral conditions forming)

IT 107-22-2, Glyoxal 26403-72-5, Polyethylene glycol diglycidyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; modifying or crosslinking chitosan under neutral conditions)

IT 50-00-0, Formaldehyde, reactions 111-30-6, Glutaraldehyde 9002-89-5, Poly(vinyl alcohol) 9003-39-8, Poly(vinylpyrrolidone) 129114-21-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(for modifying or crosslinking chitosan under neutral conditions)

IT 78274-32-5 92451-01-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(grafting; modifying or crosslinking chitosan under neutral conditions)

IT 106-31-0DP, Butyric anhydride, reaction products with chitosan 108-24-7DP, Acetic anhydride, reaction products with chitosan 9012-76-4DP, Chitosan, reaction products with acetic or butyric anhydride 193749-88-1P, Chitosan-polyethylene glycol graft copolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(modifying or crosslinking chitosan under neutral conditions)

IT 1132-61-2, 4-Morpholinepropanesulfonic acid 4432-21-9, 2-Morpholinoethanesulfonic acid 6976-37-0, 2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol 7365-45-9, 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid 16191-18-1, N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid 64431-96-5, 1,3-Bis[tris(hydroxymethyl)methylamino]propane 68399-77-9 68399-80-4 115724-21-5, 4-Morpholinebutanesulfonic acid 161308-36-7
RL: RGT (Reagent); RACT (Reactant or reagent)
(modifying or crosslinking chitosan under neutral conditions)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:596624 HCAPLUS Full-text
DOCUMENT NUMBER: 138:309107
TITLE: Crosslinked poly(vinyl alcohol)
hydrogel: study of swelling and drug release behavior
AUTHOR(S): Varshosaz, Jaleh; Koopaie, Niloufar
CORPORATE SOURCE: Department of Pharmaceutics, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Esfahan, Iran
SOURCE: Iranian Polymer Journal (2002), 11(2), 123-131
CODEN: IPJOFF; ISSN: 1026-1265
PUBLISHER: Iran Polymer Institute
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cross-linked poly (vinyl alc.) (PVA) is a prolonged-release micromatrix, a hydrophilic polymer and a potentially interesting hydrogel, which is useful

for drug delivery applications. As a part of drug development procedure the aim of this study was to investigate the effect of structural changes on drug release (theophylline) from this polymeric network. The studied parameters included: crosslinking agent (glutaraldehyde) concentration, PVA content of the films, theophylline percentage and their overall effect on swelling of the hydrogels, drug loading efficiency, diffusion and release characteristics of theophylline from PVA films. Changes in glutaraldehyde percentage (or crosslinking d.) affected the swelling of the films. However, increasing PVA percentage caused more swelling. Drug loading efficiency was higher in gels with higher glutaraldehyde, PVA and theophylline percentages. Increasing contents of PVA and theophylline promoted the diffusion coefficient and drug release rate but glutaraldehyde had a reverse effect. The pH did not affect the swelling and diffusion coefficient. Water transport and drug release mechanism predominantly followed a Fickian model. It may be concluded that by changing the PVA structural parameters, a rate-controlled drug release is obtained.

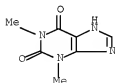
IT 9002-89-5, PVA
 RL: DEV (Device component use); PRP (Properties); RCT (Reactant);
 THU (Therapeutic use); BIOL (Biological study); RACT (Reactant
 or reagent); USES (Uses)
 (swelling and drug release behavior of crosslinked
 poly(vinyl alc.) hydrogel)
 RN 9002-89-5 HCAPLUS
 CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IT 58-55-9, (Theophylline), biological studies
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological
 study); USES (Uses)
 (swelling and drug release behavior of crosslinked
 poly(vinyl alc.) hydrogel)
 RN 58-55-9 HCAPLUS
 CN 1H-Purine-2,6-dione, 3,9-dihydro-1,3-dimethyl- (CA INDEX NAME)



IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (swelling and drug release behavior of crosslinked
 poly(vinyl alc.) hydrogel)
 RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)

OHC—(CH₂)₃—CHO

CC 63-6 (Pharmaceuticals)
IT Polyvinyl acetals
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(glutarals; swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
IT Drug delivery systems
(hydrogels, controlled-release; swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
IT Crosslinking
Diffusion
Dissolution
Swelling, physical
(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
IT 9002-89-5, PVA
RL: DEV (Device component use); PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
IT 58-55-9, (Theophylline), biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
IT 111-39-8, Glutaraldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 2001:705441 HCAPLUS Full-text
DOCUMENT NUMBER: 135:372281
TITLE: On the viscoelastic properties of poly(vinyl alcohol) and chemically crosslinked poly(vinyl alcohol)
AUTHOR(S): Park, Jun-Seo; Park, Jang-Woo; Ruckenstein, Eli
CORPORATE SOURCE: Department of Chemical Engineering, Hankyong National University, Kyunggi-do, 456-749, S. Korea
SOURCE: Journal of Applied Polymer Science (2001), 82(7), 1816-1823
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Poly(vinyl alc.) (PVA) films chemical crosslinked with glutaraldehyde in the presence of HCl were prepared by casting from aqueous solution The PVA and

PVA gels were investigated by DSC, TGA and DMA; their swelling characteristics and tensile strength also were determined. The DSC results for the gels displayed depressions of the melting and crystallization temps., as well as a decrease in the heat of fusion, when compared to those of PVA free of crosslinker. DMA anal. revealed that the Tg of the wet PVA was lower than that of the dry one, indicating that water has a plasticizing effect. Also, the gels have a lower Tg than PVA and the Tg of the wet gels increases with increasing crosslink d. Possible explanations are provided for these observations. PVA exhibits a single degradation peak, while two degradation peaks were detected for crosslinked PVA. The wet PVA and PVA gels display lower tensile strength and higher elongation than the dried ones.

IT 9002-89-5, Poly(vinyl alcohol)
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))
 RN 9002-89-5 HCAPLUS
 CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) crosslinked with)
 RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
 ST polyvinyl alc viscoelastic property; crosslinked polyvinyl alc viscoelastic property
 IT Glass transition temperature
 Mechanical loss
 Swelling, physical
 Tensile strength
 Thermal properties
 (of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))
 IT 9002-89-5, Poly(vinyl alcohol)
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) crosslinked with)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L39 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 2001:220984 HCAPLUS Full-text
DOCUMENT NUMBER: 134:297360
TITLE: Cellulose functionalization by glutaraldehyde
(GA)
AUTHOR(S): Wang, Yuhong; Hsieh, You-Lo
CORPORATE SOURCE: Fiber and Polymer Science, University of
California, Davis, CA, 95616, USA
SOURCE: Polymer Preprints (American Chemical Society,
Division of Polymer Chemistry) (2001),
42(1), 520-521
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer
Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
AB To provide cellulose for further functionalization reactions, cellulose was
activated by reaction (acetalization) with glutaraldehyde (GA) using Al2(SO4)3
as catalyst. FTIR spectroscopy revealed presence of aldehyde groups on GA-
activated cellulose. The degree of GA-activation was studied in dependence of
curing time, catalyst/GA ratios, and GA concentration. Aldehyde groups of GA-
activated cellulose crosslinked with poly(vinyl alc.) (PVA) when immersed into
PVA solution by forming 3-dimensional gel networks.
IT 111-30-8DE, Glutaraldehyde, reaction products with cellulose
9004-34-6UP, Cellulose, reaction products with
glutaraldehyde, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); PACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))
RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)

OHCH—(CH₂)₃—CHO

RN 9004-34-6 HCAPLUS
CN Cellulose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5, Poly(vinyl alcohol)
RL: RCT (Reactant); PACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))
RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

H2C—CH—OH

CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
Section cross-reference(s): 37
ST cellulose acetal glutaraldehyde crosslinking polyvinyl
alc; functionalization cellulose glutaraldehyde
IT 111-30-8DP, Glutaraldehyde, reaction products with cellulose
9001-34-6DP, Cellulose, reaction products with
glutaraldehyde, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))
IT 9002-89-5, Poly(vinyl alcohol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L39 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 2000:365186 HCAPLUS Full-text
DOCUMENT NUMBER: 133:105706
TITLE: Crosslinking of PVA and glutaraldehyde
in water monitored by viscosity and pulse field
gradient NMR: A comparative study
AUTHOR(S): Hansen, Eddy W.; Bouzga, Aud M.; Sommer, Britt;
Kvernberg, Per Olav
CORPORATE SOURCE: SINTEF Applied Chemistry, Oslo, N-0314, Norway
SOURCE: Polymers for Advanced Technologies (2000
, 11(4), 185-191
CODEN: PADT5; ISSN: 1042-7147
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The crosslinking of poly(vinyl alc.) (PVA) with glutaraldehyde at 80° was
characterized by viscosity and pulse field gradient (PFG) NMR techniques. NMR
signified an initial dormant period of .apprx.6 h, in which the self-diffusion
coefficient of PVA was constant and independent of time. During the next 7 h
(the primary gel period), this induction period was succeeded by a fast decay
of the self-diffusion coefficient of rate $(9.13 \pm 0.45) \times 10^{-5} \text{ sec}^{-1}$ followed by
a slower decay rate of $(3.22 \pm 0.30) \times 10^{-5} \text{ sec}^{-1}$ (the secondary gel period).
The viscosity of the solution showed the same time behavior, i.e., an initial
dormant period, followed by a fast increase of the viscosity for the next 7-8
h. During the secondary gel regime, the viscosity became too large to be
reliably determined. However, within the time regime where both techniques
produced reliable data, they gave identical information regarding the kinetics
of the gel process, suggesting that PFG NMR enables in situ monitoring of
gelation within porous materials.
IT 111-30-8, Glutaraldehyde 9002-89-5, Poly(vinyl
alcohol)
RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
PROC (Process); RACT (Reactant or reagent)
(kinetics of glutaraldehyde crosslinking of poly(vinyl
alc.) in water)
RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)

OHC—(CH₂)₃—CHO

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

H₂C=CH—OH

CC 37-6 (Plastics Manufacture and Processing)
ST kinetics glutaraldehyde crosslinking polyvinyl alc
IT Crosslinking kinetics
(kinetics of glutaraldehyde crosslinking of poly(vinyl
alc.) in water)
IT 111-30-8, Glutaraldehyde 9002-89-5, Poly(vinyl
alcohol)
RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
PROC (Process); RACT (Reactant or reagent)
(kinetics of glutaraldehyde crosslinking of poly(vinyl
alc.) in water)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L39 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:725242 HCAPLUS Full-text

DOCUMENT NUMBER: 128:59129

ORIGINAL REFERENCE NO.: 128:11499a,11502a

TITLE: Novel diazonium-functionalized support for
immobilization experiments

AUTHOR(S): Curreli, N.; Oliva, S.; Rescigno, A.; Rinaldi,
A. C.; Sollai, F.; Sanjust, E.

CORPORATE SOURCE: Istituto di Chimica Biologica, Universita di
Cagliari, Cagliari, I-09125, Italy

SOURCE: Journal of Applied Polymer Science (1997
, 66(8), 1433-1438
CODEN: JAPNAB; ISSN: 0021-8995

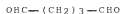
PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A hydrophilic, water-insol. polymer was prepared, starting from com.
poly(vinyl alc.) that was crosslinked and functionalized by means of
glutaraldehyde and 4-nitrobenzaldehyde. The resulting beads were then reduced
and subsequently diazotized, and finally contained diazonium moieties capable
of covalently coupling with electron-rich aromatic systems such as histidine
and/or tyrosine residues of proteins. The described resin is therefore well
suitable for protein immobilization whenever lysine residues (those involved
in covalent coupling with several popular immobilization procedures) are not
available and/or cannot be used unless the biol. activity of the protein is
destroyed.

IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); PACT (Reactant or reagent)
 (crosslinker; preparation of a novel
 diazonium-functionalized support for protein immobilization
 expts.)
 RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



IT 9001-22-3, β -Glucosidase
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (immobilization; preparation of a novel diazonium-functionalized
 support for protein immobilization expts.)
 RN 9001-22-3 HCAPLUS
 CN Glucosidase, β - (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5DP, Poly(vinyl alcohol), diazonium-functionalized
 crosslinked resin
 RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent)
 ; USES (Uses)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)
 RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

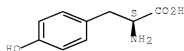
CM 1

CRN 557-75-5
 CMF C2 H4 O



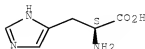
IT 60-18-4, L-Tyrosine, reactions 71-00-1,
 L-Histidine, reactions 555-16-8, 4-Nitrobenzaldehyde,
 reactions 9002-89-5, Poly(vinyl alcohol)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)
 RN 60-18-4 HCAPLUS
 CN L-Tyrosine (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

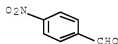


RN 71-00-1 HCAPLUS
 CN L-Histidine (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 555-16-8 HCAPLUS
 CN Benzaldehyde, 4-nitro- (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
 CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



- CC 9-16 (Biochemical Methods)
 Section cross-reference(s): 7
- IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker; preparation of a novel
 diazonium-functionalized support for protein immobilization
 expts.)
- IT 9001-22-3, β -Glucosidase
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (immobilization; preparation of a novel diazonium-functionalized
 support for protein immobilization expts.)
- IT 9002-89-5DE, Poly(vinyl alcohol), diazonium-functionalized
 crosslinked resin
 RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent)
 ; USES (Uses)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)
- IT 60-18-4, L-Tyrosine, reactions 71-00-1,
 L-Histidine, reactions 555-16-8, 4-Nitrobenzaldehyde,
 reactions 9002-89-5, Poly(vinyl alcohol)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L39 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1981:570223 HCAPLUS Full-text

DOCUMENT NUMBER: 95:170223

ORIGINAL REFERENCE NO.: 95:28477a,28480a

TITLE: Mechanical-rheological studies on polymer
networks. I. Effect of the conditions of
crosslinking on the mechanical
properties

AUTHOR(S): Horkay, F.; Nagy, M.

CORPORATE SOURCE: Natl. Inst. Occup. Health, Eotvos Lorand Univ.,
Budapest, Hung.

SOURCE: Acta Chimica Academiae Scientiarum Hungaricae (1981), 107(4), 321-34

CODEN: ACASA2; ISSN: 0001-5407

DOCUMENT TYPE: Journal

LANGUAGE: English

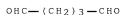
AB Unidirectional compression measurements of poly(vinyl alc.) [9002-89-5] and
vinyl alc.-vinyl acetate copolymer (I) gels crosslinked at 298 K with
glutaraldehyde [111-30-8] or succinaldehyde [638-37-9] showed that the
efficiency of crosslinking increased with increasing initial polymer
concentration and degree of crosslinking. Thermodyn. good solvents, long-chain
crosslinking agents, and decreasing the acetate content of I favored
crosslinking. In contrast to existing theories, the topol. factor increased
considerably with increasing volume fraction of the polymer, and was
independent of degree of crosslinking.

IT 111-30-8 638-37-9

RL: RCT (Reactant); PACT (Reactant or reagent)
(crosslinking by, of poly(vinyl alc.), rheol. in
relation to)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



RN 638-37-9 HCAPLUS

CN Butanedial (CA INDEX NAME)



IT 9002-89-5 9003-20-7D, saponified

RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of, rheol. in relation to)

RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2



CC 36-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 66
ST rheol polymer network; crosslinking polymer rheol;
polyvinyl alc crosslinking rheol; vinyl acetate copolymer
rheol; glutaraldehyde crosslinking polymer rheol;
succinaldehyde crosslinking polymer rheol
IT Crosslinking agents
(dialdehydes, for vinyl alc. polymers)
IT Rheology
(of vinyl alc. polymers, crosslinking effect on)
IT Crosslinking
(of vinyl alc. polymers, rheol. in relation to)
IT 111-30-8 638-37-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking by, of poly(vinyl alc.), rheol. in
relation to)
IT 9902-69-5 9003-20-7D, saponified
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of, rheol. in relation to)

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L43 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:395539 HCAPLUS Full-text
DOCUMENT NUMBER: 142:466126
TITLE: Method for reducing the viscosity of viscous
fluids
INVENTOR(S): Fletcher, Philip; Crabtree, Michael John;
Eagland, Donald; Crowther, Nicholas John
PATENT ASSIGNEE(S): Advanced Gel Technology Limited, UK
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005040669	A1	20050506	WO 2004-GB4083	

200409
27

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2004284273 A1 20050506 AU 2004-284273

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CA 2540767 A1 20050506 CA 2004-2540767

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EP 1668288 A1 20060614 EP 2004-768627

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, AL, TR, BG, CZ, EE, HU, PL, SK

GB 2425777 A 20061108 GB 2006-9217

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BR 2004014985 A 20061121 BR 2004-14985

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MX 2006PA03606 A 20060831 MX 2006-PA3606

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NO 2006001956 A 20060502 NO 2006-1956

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US 20070042911 A1 20070222 US 2006-574232

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PRIORITY APPLN. INFO.: GB 2003-23067 A

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GB 2004-4051 A

200402
24

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WO 2004-GB4083 W

200409
27

OTHER SOURCE(S):

MARPAT 142:466126

AB A viscous fluid, such as heavy crude oil which is too viscous to enable it to be pumped from a flowing phase of a reservoir into and along a pipeline for delivery to a refinery or other storage facility, may be contacted with a formulation to reduce its viscosity. The formulation comprises a polymeric material AA which includes -O- moieties pendent from a polymeric backbone thereof and said material is optionally cross-linked. In one embodiment, the formulation may comprise polyvinyl alc. In an alternative embodiment, the formulation may comprise a cross-linked polymeric material, such as cross-linked polyvinyl alc. After the viscous composition was transported to a desired location, it may be separated from the other components.

IT 9903-20-7DF, Polyvinyl acetate, plain, substituted, 80-95%

hydrolyzed, and cross-linked

RL: CPS (Chemical process); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(d.p. 6809; method for reducing viscosity of viscous fluids such as heavy petroleum)

RN 9003-20-7 HCAPLUS

CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4

CMF C4 H6 O2



IT 7647-01-0, Hydrochloric acid, uses 7664-38-2,

Phosphoric acid, uses

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy petroleum)

RN 7647-01-0 HCAPLUS

CN Hydrochloric acid (CA INDEX NAME)

HC1

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



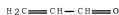
IT 57-13-6D, Urea, reaction products with ester-group- and ether-group- containing vinyl polymers 75-01-4E, Vinyl chloride, reaction products with ester-group- and ether-group- containing vinyl polymers 107-02-8D, Acrolein, reaction products with ester-group- and ether-group- containing vinyl polymers 7790-28-5, Sodium periodate 13401-80-4D, Vinyl sulfate, reaction products with ester-group- and ether-group- containing vinyl polymers
 RL: MOA (Modifier or additive use); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)
 RN 57-13-6 HCAPLUS
 CN Urea (CA INDEX NAME)



RN 75-01-4 HCAPLUS
 CN Ethene, chloro- (CA INDEX NAME)



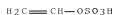
RN 107-02-8 HCAPLUS
 CN 2-Propenal (CA INDEX NAME)



RN 7790-28-5 HCAPLUS
 CN Periodic acid (HIO₄), sodium salt (1:1) (CA INDEX NAME)



RN 13401-80-4 HCAPLUS
 CN Sulfuric acid, monoethenyl ester (CA INDEX NAME)



IT 9002-89-5D, Polyvinyl alcohol, plain, substituted, and crosslinked with aldehydes

RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy
 petroleum)

RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IT 204573-61-5DP, cyclic acetals with polyvinyl alc.

RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent); USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy
 petroleum)

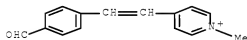
RN 204573-61-5 HCAPLUS

CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate
 (1:1), homopolymer (CA INDEX NAME)

CM 1

CRN 73264-13-8

CMF C15 H14 N O



CM 2

CRN 21228-90-0

CMF C H3 O4 S



IT 9002-89-5DP, Polyvinyl alcohol, cyclic acetals with

(formylphenylethenyl)methylpyridinium methosulfate homopolymer
 RL: MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent)
 ; USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy
 petroleum)

RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

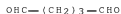
CMF C2 H4 O



IT 107-22-2DE, Glyoxal, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 111-30-8DE, Glutaraldehyde, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 9003-20-7DE, Polyvinyl acetate, hydrolyzed, cyclic acetal reaction products with 4-[2-(4-formylphenyl)ethenyl]-1-methylpyridinium Me sulfate, glutaraldehyde, glyoxal, or other aldehydes 74401-04-0DE, 4-[2-(4-formylphenyl)ethenyl]-1-methylpyridinium methyl sulfate, cyclic acetal reaction products with hydrolyzed polyvinyl acetate
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)
RN 107-22-2 HCAPLUS
CN Ethanedial (CA INDEX NAME)



RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)



RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4

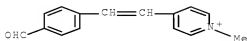
CMF C4 H6 O2



RN 74401-04-0 HCAPLUS
CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate (1:1) (CA INDEX NAME)

CM 1

CRN 73264-13-8
 CMF C15 H14 N O



CM 2

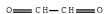
CRN 21228-90-0
 CMF C H3 O4 S



IT 74-85-10, Ethene, 1,2,3,4-tetrasubstituted with aromatic, heteroarom., or polar, and non-polar groups 107-22-2, Glyoxal 111-30-8, Glutaraldehyde 1310-73-2, Sodium hydroxide, reactions 74401-04-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)
 RN 74-85-1 HCAPLUS
 CN Ethene (CA INDEX NAME)



RN 107-22-2 HCAPLUS
 CN Ethanedial (CA INDEX NAME)



RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



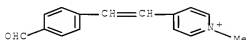
RN 1310-73-2 HCAPLUS
 CN Sodium hydroxide (Na(OH)) (CA INDEX NAME)



RN 74401-04-0 HCAPLUS
 CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate
 (1:1) (CA INDEX NAME)

CM 1

CRN 73264-13-8
 CMF C15 H14 N O



CM 2

CRN 21228-90-0
 CMF C H3 O4 S

Me—O—SO₃⁻

- IC ICM F17D001-17
 ICS C10L001-32
- CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 35, 48, 66
- IT Polysaccharides, uses
 RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 USES (Uses)
 (crosslinked hydrogels; method for reducing viscosity
 of viscous fluids such as heavy petroleum)
- IT Condensation reaction
 (crosslinking; method for reducing viscosity of viscous
 fluids such as heavy petroleum)
- IT 9093-20-7DP, Polyvinyl acetate, plain, substituted, 80-95%
 hydrolyzed, and cross-linked
 RL: CPS (Chemical process); MOA (Modifier or additive use); PEP
 (Physical, engineering or chemical process); POF (Polymer in
 formulation); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); PROC (Process); RACT (Reactant or reagent); USES
 (Uses)
 (d.p. 6809; method for reducing viscosity of viscous fluids such
 as heavy petroleum)
- IT 7647-01-0, Hydrochloric acid, uses 7664-38-2,
 Phosphoric acid, uses
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent);
 USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy
 petroleum)
- IT 57-13-6D, Urea, reaction products with ester-group- and
 ether-group- containing vinyl polymers 75-01-4D, Vinyl
 chloride, reaction products with ester-group- and ether-group-
 containing vinyl polymers 197-02-8D, Acrolein, reaction
 products with ester-group- and ether-group- containing vinyl polymers

7790-28-5, Sodium periodate 13401-80-4D, Vinyl sulfate, reaction products with ester-group- and ether-group- containing vinyl polymers
RL: MOA (Modifier or additive use); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 9602-89-5D, Polyvinyl alcohol, plain, substituted, and crosslinked with aldehydes
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 294573-61-5DF, cyclic acetals with polyvinyl alc.
RL: MOA (Modifier or additive use); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 9002-89-5DF, Polyvinyl alcohol, cyclic acetals with (formylphenylethenyl)methylpyridinium methosulfate homopolymer
RL: MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
; USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 107-22-2DF, Glyoxal, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 111-30-8DF, Glutaraldehyde, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 9003-20-7DF, Polyvinyl acetate, hydrolyzed, cyclic acetal reaction products with 4-[2-(4-formylphenyl)ethenyl]-1-methylpyridinium Me sulfate, glutaraldehyde, glyoxal, or other aldehydes 74401-04-0DF, 4-[2-(4-Formylphenyl)ethenyl]-1-methylpyridinium methyl sulfate, cyclic acetal reaction products with hydrolyzed polyvinyl acetate
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 74-85-15, Ethene, 1,2,3,4-tetrasubstituted with aromatic, heteroarom., or polar, and non-polar groups 107-22-2, Glyoxal 111-30-8, Glutaraldehyde 1310-73-2, Sodium hydroxide, reactions 74401-04-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:44046 HCAPLUS Full-text
DOCUMENT NUMBER: 143:404547
TITLE: Immobilization conditions of lipase from Rhizopus delemar
AUTHOR(S): Wu, Qianqian; Wu, Ke; Liu, Bin; Yang, Benhong; Zhao, Lijun; Cai, Jingmin; Pan, Renrui
CORPORATE SOURCE: Department of Biological Science and Technology, Hefei University, Hefei, 230022, Peop. Rep. China
SOURCE: Gongye Weishengwu (2003), 33(4), 9-13

CODEN: GOWEEK; ISSN: 1001-6678
PUBLISHER: Quanguo Gongye Weishengwu Xinxi Zhongxin
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The chitosan-immobilized lipase from *Rhizopus deleamar* was prepared with glutaraldehyde as crosslinking agent in the buffer at room temperature for 6 h. Compared with the free enzyme, the temperature to loss a half activity of the immobilized enzyme was increased from 47° to 100°, the optimum temperature and optimum pH were shifted from 40° to 80° and from 6 to 5.5, resp. The K_m and $K'm$ of the immobilized enzyme were 50 mg/mL and 56 mg/mL, resp. The immobilized lipase was used in hydrolysis of vegetable oil and synthesis of some esters. The immobilized enzyme activity remained 82.6% after 10 repeated batches of hydrolysis of oil.

IT 9001-62-1, Lipase
RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(immobilization of lipase from *Rhizopus deleamar*)
RN 9001-62-1 HCAPLUS
CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9012-76-4, Chitosan
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(immobilization of lipase from *Rhizopus deleamar*)
RN 9012-76-4 HCAPLUS
CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 111-30-6, Glutaraldehyde 9002-89-5, Polyvinyl alcohol
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(immobilization of lipase from *Rhizopus deleamar*)
RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



CC 16-1 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7
IT Crosslinking
Temperature effects, biological

Thermal stability
(immobilization of lipase from *Rhizopus delemar*)

IT 9901-62-1, Lipase
RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(immobilization of lipase from *Rhizopus delemar*)

IT 9912-76-4, Chitosan
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(immobilization of lipase from *Rhizopus delemar*)

IT 111-30-8, Glutaraldehyde 9902-89-5, Polyvinyl alcohol
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(immobilization of lipase from *Rhizopus delemar*)

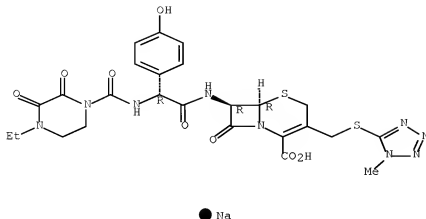
L43 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:691055 HCAPLUS [Full-text](#)
DOCUMENT NUMBER: 142:204385
TITLE: Microparticles based on gelatin and poly(vinyl alcohol) with pharmaceutical applications
AUTHOR(S): Popa, Marcel; Peptu, Catalina; Spataru, Daniela; Verestiuc, Liliana; Perrichaud, Alain
CORPORATE SOURCE: Faculty of Industrial Chemistry, Department of Macromolecules, Technical University Gh.Asachi, Iasi, Rom.
SOURCE: Buletinul Stiintific al Universitatii "Politehnica" din Timisoara Romania, Seria Chimie si Mediului (2003), 48(1-2), 195-198
CODEN: BSIMFG; ISSN: 1224-6018
PUBLISHER: Universitatii "Politehnica" din Timisoara
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This paper presents the synthesis of microparticles based on gelatin and poly(vinyl alc.) using a w/o emulsion method and crosslinking with glutardialdehyde. The microparticles composition and swelling properties were analyzed. Microparticles morphol. was studied by SEM. The kinetic of Cefoperazone sodium release from new polymeric materials and the biocompatibility in cell culture were studied.

IT 62893-20-3, Cefoperazone sodium
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

RN 62893-20-3 HCAPLUS
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2R)-2-[[[(4-ethyl-2,3-dioxo-1-piperazinyl)carbonyl]amino]-2-(4-hydroxyphenyl)acetyl]amino]-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, sodium salt (1:1), (6R,7R)- (CA INDEX NAME)

Absolute stereochemistry.



IT 111-30-9, Glutardialdehyde 9002-89-5, Poly(vinyl alcohol)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)
 RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
 CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



CC 63-5 (Pharmaceuticals)
 ST microparticle gelatin poly vinyl alc emulsion glutardialdehyde crosslinking
 IT Crosslinking
 Dissolution
 Swelling, physical
 (microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)
 IT 62393-20-3, Cefoperazone sodium
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)
 IT 111-30-8, Glutardialdehyde 9002-89-5, Poly(vinyl alcohol)

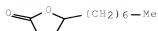
RL: RCT (Reactant); RACT (Reactant or reagent)
 (microparticles based on gelatin and poly(vinyl alc.) with
 pharmaceutical applications)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:513459 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:36305
 TITLE: Encapsulated flavors for cigarettes
 INVENTOR(S): Woods, Debra Demeter
 PATENT ASSIGNEE(S): British American Tobacco Investments Limited, UK
 SOURCE: PCT Int. Appl., 34 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

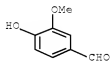
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004052128	A3	20040923		
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RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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CN 1747663	A	20060315	CN 2003-80109676	
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MX 2005PA06253	A	20050908	MX 2005-PA6253	20050610
			<--	
HK 1076230	A1	20060728	HK 2005-110652	20051124
			<--	
PRIORITY APPLN. INFO.:			GB 2002-28819	A 20021211
			<--	
			WO 2003-GB5310	W 20031205
			<--	
AB	The present invention relates to a smoking article comprising two layers of wrapper material, the outer wrapper having an air permeability of at least 200 C.U. and having a greater permeability than the inner wrapper. Encapsulated flavor is held between the inner and outer wrappers. The encapsulation technique is dependent upon the flavor to be encapsulated and the sidestream to mainstream flavor delivery ratio required. Sidestream smoke may be altered without altering the mainstream smoke, thereby altering room odors.			
IT	104-67-6, γ -Undecalactone 121-33-5, Vanillin 491-07-6, Isomenthone 1490-04-6, Menthol 3623-51-6, Neomenthol 27779-29-3, Isopinocampheol RL: BSU (Biological study, unclassified); BIOL (Biological study) (encapsulated flavors for cigarettes)			
RN	104-67-6 HCAPLUS			
CN	2(3H)-Furanone, 5-heptyldihydro- (CA INDEX NAME)			



RN 121-33-5 HCAPLUS

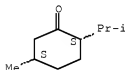
CN Benzaldehyde, 4-hydroxy-3-methoxy- (CA INDEX NAME)



RN 491-07-6 HCAPLUS

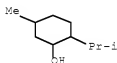
CN Cyclohexanone, 5-methyl-2-(1-methylethyl)-, (2R,5R)-rel- (CA INDEX NAME)

Relative stereochemistry.



RN 1490-04-6 HCAPLUS

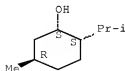
CN Cyclohexanol, 5-methyl-2-(1-methylethyl)- (CA INDEX NAME)



RN 3623-51-6 HCAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2R,5S)-rel- (CA INDEX NAME)

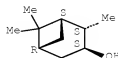
Relative stereochemistry.



RN 27779-29-9 HCAPLUS

CN Bicyclo[3.1.1]heptan-3-ol, 2,6,6-trimethyl-, (1R,2R,3R,5S)-rel- (CA INDEX NAME)

Relative stereochemistry.



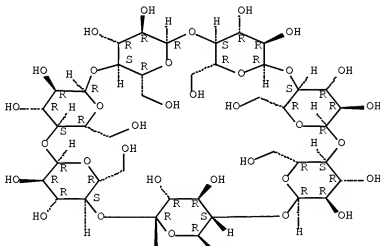
IT 57-10-3, Palmitic acid, biological studies 7585-39-9
 , β -Cyclodextrin 9000-11-7, Cmc
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (encapsulated flavors for cigarettes)
 RN 57-10-3 HCAPLUS
 CN Hexadecanoic acid (CA INDEX NAME)



RN 7585-39-9 HCAPLUS
 CN β -Cyclodextrin (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



RN 9000-11-7 HCAPLUS
CN Cellulose, carboxymethyl ether (CA INDEX NAME)

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 79-14-1
CMF C2 H4 O3



IT 9000-01-5, Gum arabic
RL: BUU (Biological use, unclassified); CPS (Chemical process); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)
(encapsulated flavors for cigarettes)
RN 9000-01-5 HCAPLUS
CN Gum arabic (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9005-32-7DP, Alginic acid, vanadium or copper salt of
9005-35-0P, Calcium alginate 25067-44-1P
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(encapsulated flavors for cigarettes)
RN 9005-32-7 HCAPLUS
CN Alginic acid (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-35-0 HCAPLUS
CN Alginic acid, calcium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 25067-44-1 HCAPLUS
CN Decanedioyl dichloride, polymer with 1,6-hexanediamine (CA INDEX NAME)

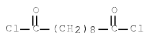
CM 1

CRN 124-09-4
CMF C6 H16 N2



CM 2

CRN 111-19-3
CMF C10 H16 C12 O2



IT 62-54-4, Calcium acetate 9905-38-3, Sodium alginate 19043-52-4, Calcium chloride, processes 15158-11-9, Cu2+, processes 22537-23-1, Al3+, processes 22541-76-0, V4+, processes 23713-49-7, Zn2+, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(encapsulated flavors for cigarettes)
RN 62-54-4 HCAPLUS
CN Acetic acid, calcium salt (2:1) (CA INDEX NAME)



● 1/2 Ca

RN 9005-38-3 HCAPLUS
CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 10043-52-4 HCAPLUS
CN Calcium chloride (CaCl2) (CA INDEX NAME)



RN 15158-11-9 HCAPLUS
CN Copper, ion (Cu2+) (CA INDEX NAME)

cu2+

RN 22537-23-1 HCAPLUS
CN Aluminum, ion (Al3+) (CA INDEX NAME)

Al3+

RN 22541-76-0 HCAPLUS

CN Vanadium, ion (V4+) (CA INDEX NAME)

v4+

RN 23713-49-7 HCAPLUS

CN Zinc, ion (Zn2+) (CA INDEX NAME)

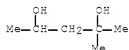
zn2+

IT 57-13-6, Urea, reactions 107-41-5,
2-Methyl-2,4-pentanediol 108-46-3, Resorcinol, reactions
111-19-3, Sebacyl chloride 111-30-8,
Glutaraldehyde 7757-82-6, Sodium sulfate, reactions
9002-89-5, Polyvinyl alcohol 9003-06-9
10043-01-3, Aluminum sulfate 10043-35-3, Boric
acid, reactions 27774-13-6, Vanadyl sulfate
30140-39-7, Hexanediamine
RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); RCT (Reactant); PROC (Process); RACT (Reactant or
reagent)
(encapsulated flavors for cigarettes)
RN 57-13-6 HCAPLUS
CN Urea (CA INDEX NAME)



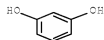
RN 107-41-5 HCAPLUS

CN 2,4-Pentanediol, 2-methyl- (CA INDEX NAME)



RN 108-46-3 HCAPLUS

CN 1,3-Benzenediol (CA INDEX NAME)



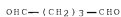
RN 111-19-3 HCAPLUS

CN Decanedioyl dichloride (CA INDEX NAME)



RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



RN 7757-82-6 HCAPLUS

CN Sulfuric acid sodium salt (1:2) (CA INDEX NAME)



●2 Na

RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



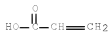
RN 9003-06-9 HCAPLUS

CN 2-Propenoic acid, polymer with 2-propenamide (CA INDEX NAME)

CM 1

CRN 79-10-7

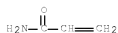
CMF C3 H4 O2



CM 2

CRN 79-06-1

CMF C3 H5 N O



RN 10043-01-3 HCAPLUS

CN Sulfuric acid, aluminum salt (3:2) (CA INDEX NAME)



●2/3 Al

RN 10043-35-3 HCAPLUS

CN Boric acid (H3BO3) (CA INDEX NAME)



RN 27774-13-6 HCAPLUS

CN Vanadium, oxo[sulfato(2-)-κO]- (CA INDEX NAME)



RN 30140-39-7 HCAPLUS

CN Hexanediamine (CA INDEX NAME)

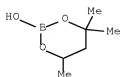


IT 78-60-4P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (encapsulated flavors for cigarettes)

RN 78-60-4 HCAPLUS

CN 1,3,2-Dioxaborinane, 2-hydroxy-4,4,6-trimethyl- (CA INDEX NAME)



- IC ICM A24B015-00
 CC 11-7 (Plant Biochemistry)
 IT Agglomeration
 Coacervation
 Crosslinking
 Hydrogels
 Mentha piperita
 Mentha spicata
 Mint
 (encapsulated flavors for cigarettes)
- IT 104-67-6, γ -Undecalactone 121-33-5, Vanillin
 491-07-6, Isomenthone 1490-04-6, Menthol
 3623-51-6, Neomenthol 27779-29-9, Isopinocampheol
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (encapsulated flavors for cigarettes)
- IT 57-10-3, Palmitic acid, biological studies 7585-39-9
 , β -Cyclodextrin 9006-11-7, Cmc
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (encapsulated flavors for cigarettes)
- IT 9090-01-5, Gum arabic
 RL: BUU (Biological use, unclassified); CPS (Chemical process); PEP
 (Physical, engineering or chemical process); BIOL (Biological
 study); PROC (Process); USES (Uses)
 (encapsulated flavors for cigarettes)
- IT 9065-22-7DF, Alginic acid, vanadium or copper salt of
 9065-35-0E, Calcium alginate 25067-44-1P
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (encapsulated flavors for cigarettes)
- IT 62-54-4, Calcium acetate 9005-38-3, Sodium
 alginate 10043-52-4, Calcium chloride, processes
 15158-11-9, Cu²⁺, processes 22537-23-1, Al³⁺,
 processes 22541-76-0, V⁴⁺, processes 23713-49-7,
 Zn²⁺, processes
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); PROC (Process)
 (encapsulated flavors for cigarettes)
- IT 57-13-6, Urea, reactions 107-41-5,
 2-Methyl-2,4-pentanediol 108-46-3, Resorcinol, reactions
 111-19-3, Sebacyl chloride 111-30-8,
 Glutaraldehyde 7757-82-6, Sodium sulfate, reactions
 9002-89-5, Polyvinyl alcohol 9002-86-9
 10043-01-3, Aluminum sulfate 10043-35-3, Boric
 acid, reactions 27774-13-6, Vanadyl sulfate
 30140-39-7, Hexanediamine
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); RCT (Reactant); PROC (Process); KACT (Reactant or
 reagent)
 (encapsulated flavors for cigarettes)

IT 78-60-4P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (encapsulated flavors for cigarettes)

L43 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:232584 HCAPLUS Full-text

DOCUMENT NUMBER: 141:424676

TITLE: Temperature-responsive polymer materials containing poly(vinyl methyl ether) segments

AUTHOR(S): Markova, D.; Christova, D.; Velichkova, R.

CORPORATE SOURCE: Institute of Polymers, BAS, Sofia, 1113, Bulg.

SOURCE: Journal of the University of Chemical Technology and Metallurgy (2003), 38(2), 325-330
CODEN: JUCTB3; ISSN: 1311-7629

PUBLISHER: University of Chemical Technology and Metallurgy

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Temperature-responsive interpenetrating polymer networks (IPN's) have been obtained via crosslinking of poly(vinyl alc.) (PVA) in the presence of the temperature-sensitive linear polymer poly(vinyl Me ether) (PVME). As a second component com. PVME was used as well as PVME-co-PVA copolymer, synthesized by Williamson etherification reaction of poly(vinyl acetate) with Me iodide. The thermo-responsive properties of the corresponding hydrogels have been evaluated by measuring the equilibrium swelling degree as a function of temperature. It has been shown that considerable and reversible shrinkage of the hydrogels obtained occurs when increasing the temperature from 25 to 80 °C.

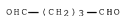
IT 111-30-8, Glutaraldehyde

RL: MOA (Modifier or additive use); RCT (Reactant); PACT (Reactant or reagent); USES (Uses)

(crosslinking agent; temperature-responsive interpenetrating network hydrogels containing poly(vinyl Me ether) segments)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



IT 9003-09-2, Poly(vinyl methyl ether)

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (temperature-responsive interpenetrating network hydrogels containing poly(vinyl Me ether) segments)

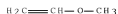
RN 9003-09-2 HCAPLUS

CN Ethene, methoxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 107-25-5

CMF C3 H6 O



IT 9002-89-5, Poly(vinyl alcohol)

RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant);
RAC (Reactant or reagent); USES (Uses)
(temperature-responsive interpenetrating network hydrogels containing
poly(vinyl Me ether) segments)
RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



CC 36-7 (Physical Properties of Synthetic High Polymers)
IT Crosslinking
Hydrogels
Interpenetrating polymer networks
Swelling, physical
(temperature-responsive interpenetrating network hydrogels containing
poly(vinyl Me ether) segments)
IT 111-30-6, Glutaraldehyde
RL: MOA (Modifier or additive use); RCT (Reactant); RAC
(Reactant or reagent); USES (Uses)
(crosslinking agent; temperature-responsive interpenetrating
network hydrogels containing poly(vinyl Me ether) segments)
IT 9003-09-2, Poly(vinyl methyl ether)
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(temperature-responsive interpenetrating network hydrogels containing
poly(vinyl Me ether) segments)
IT 9002-89-5, Poly(vinyl alcohol)
RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant);
RAC (Reactant or reagent); USES (Uses)
(temperature-responsive interpenetrating network hydrogels containing
poly(vinyl Me ether) segments)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:944063 HCAPLUS Full-text
DOCUMENT NUMBER: 140:180169
TITLE: Poly(vinyl alcohol) ultrafiltration membranes:
Synthesis, characterization, the use for enzyme
immobilization
AUTHOR(S): Djennad, M'hamed; Benachour, Djafer; Berger,
Hartmut; Schomaecker, Reinhard
CORPORATE SOURCE: Departement de Chimie, Universite de Mostaganem,
Mostaganem, 27000, Algeria
SOURCE: Engineering in Life Sciences (2003),
3(11), 446-452
Published in: Chem. Eng. Technol., 26(11)
CODEN: ELSNAE
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An enzymic hydrolysis in a sym. membrane, combining reaction and separation, has been studied. PVA hydrogel was chosen because of its hydrophilicity expecting to minimize membrane fouling and concentration polarization. The membrane pores containing covalently bound enzymes serve as catalyst support. The membrane immobilization of the enzyme and the filtration mode of operating the process were chosen in order to avoid product inhibition of the enzyme. The properties of cross-linked PVA hydrogel were investigated. The conversion of the hydrolysis of p-nitrophenyllaurate with two different loadings of Cr lipase was evaluated. The conversion of the reaction decreased with both increasing substrate flux and initial concentration. The kinetic parameters were obtained. Compared to the free lipase, the K_m of the membrane bonded enzyme was lower and its R_{max} approx. the same.

IT 9001-62-1, Lipase

RL: BCP (Biochemical process); CAT (Catalyst use); RCT (Reactant);
BIOL (Biological study); PROC (Process); RACT (Reactant or reagent);
USES (Uses)
(enzyme immobilization in poly(vinyl alc.) ultrafiltration
membranes)

RN 9001-62-1 HCAPLUS

CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9001-62-1DE, Lipase, covalently linked to PVA hydrogel

RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation); PROC
(Process); USES (Uses)
(enzyme immobilization in poly(vinyl alc.) ultrafiltration
membranes)

RN 9001-62-1 HCAPLUS

CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5, Pva

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL
(Biological study); RACT (Reactant or reagent); USES
(Uses)
(enzyme immobilization in poly(vinyl alc.) ultrafiltration
membranes)

RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

H₂C=CH—OH

IT 111-30-8, Glutardialdehyde

RL: RCT (Reactant); RACT (Reactant or reagent)
(enzyme immobilization in poly(vinyl alc.) ultrafiltration
membranes)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)

OHC—(CH₂)₃—CHO

CC 16-1 (Fermentation and Bioindustrial Chemistry)
 Section cross-reference(s): 7
 IT 9001-62-1, Lipase
 RL: BCP (Biochemical process); CAT (Catalyst use); RCT (Reactant);
 BIOL (Biological study); PROC (Process); RACT (Reactant or reagent);
 USES (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)
 IT 9001-62-1DE, Lipase, covalently linked to PVA hydrogel
 RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); PROC
 (Process); USES (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)
 IT 9002-89-5, Pva
 RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL
 (Biological study); RACT (Reactant or reagent); USES
 (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)
 IT 111-30-6, Glutardialdehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)
 REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:688429 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:180834
 TITLE: High water absorbent material useful for
 agriculture and forestry and preparation from
 waste plastics and rubbers
 INVENTOR(S): Zou, Liming; Wang, Yimin; Ni, Jianhua; Tang,
 Gencai; Zhang, Jingping; Pan, Xiangqing
 PATENT ASSIGNEE(S): Donghua Univ., Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 8
 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1355262	A	20020626	CN 2000-127610	200011 30

PRIORITY APPLN. INFO.: CN 2000-127610
 200011
 30

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- AB The title water absorbents are prepared by reacting pretreated waste plastics and rubbers (A) in the presence of acetone, formaldehyde, glutaraldehyde, copper sulfate, and tannic acid (described as crosslinking agent in the document), hydrolyzing at 20-100° for 1-72 h in 1-30% alkali solution, wherein A is selected from polyethylene, polypropylene, poly(vinyl alc.), starch, PET, polyacrylonitrile or mixture thereof. The only example used waste industrial rubber as starting material and it as described above to give a water absorbent material with water absorbency 50-500 g/g resin.
- IT 67-64-1, Acetone, uses 7758-98-7, Copper sulfate, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (in preparation of high water absorbents from waste plastics and rubbers)
- RN 67-64-1 HCAPLUS
- CN 2-Propanone (CA INDEX NAME)



- RN 7758-98-7 HCAPLUS
- CN Sulfuric acid copper(2+) salt (1:1) (CA INDEX NAME)



● Cu(II)

- IT 50-00-0, Formaldehyde, reactions 111-30-8, Glutaraldehyde 9002-86-4, Polyethylene 9002-89-5, Poly(vinyl alcohol) 9003-07-0, Polypropylene 9005-25-8, Starch, reactions 25014-41-3, Polyacrylonitrile 25038-59-9, Polyethylene terephthalate, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in preparation of high water absorbents from waste plastics and rubbers)
- RN 50-00-0 HCAPLUS
- CN Formaldehyde (CA INDEX NAME)



- RN 111-30-8 HCAPLUS
- CN Pentanedial (CA INDEX NAME)



RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RN 9003-07-0 HCAPLUS
CN 1-Propene, homopolymer (CA INDEX NAME)

CM 1

CRN 115-07-1
CMF C3 H6



RN 9005-25-8 HCAPLUS
CN Starch (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

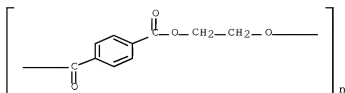
CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25038-59-9 HCAPLUS
CN Poly(oxy-1,2-ethanediylloxycarbonyl-1,4-phenylenecarbonyl) (CA INDEX

NAME)



- IC ICM C08L101-00
ICS C08J003-24
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 60
IT Crosslinking agents
Waste plastics and rubbers
(in preparation of high water absorbents from waste plastics and rubbers)
IT 67-64-1, Acetone, uses 7758-98-7, Copper sulfate, uses
RL: MOA (Modifier or additive use); USES (Uses)
(in preparation of high water absorbents from waste plastics and rubbers)
IT 50-00-0, Formaldehyde, reactions 111-30-8, Glutaraldehyde 9002-68-4, Polyethylene 9002-89-5, Poly(vinyl alcohol) 9003-07-0, Polypropylene 9005-25-8, Starch, reactions 25014-41-9, Polyacrylonitrile 25038-59-9, Polyethylene terephthalate, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of high water absorbents from waste plastics and rubbers)

L43 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:155972 HCAPLUS Full-text

DOCUMENT NUMBER: 138:149592

TITLE: Improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid

INVENTOR(S): Bahulekar, Raman Vaman; Prabhune, Asmita Ashutosh; Pundle, Archana Vishnu; Gadgil, Joyant Mohaniraj; Rajan, Chelanattu Khizhakke Madath Raman; Ponrathnam, Surendra; Sivaraman, Hephzibah

PATENT ASSIGNEE(S): Council of Scientific and Industrial Research, India

SOURCE: Indian, 13 pp.

CODEN: INXXAP

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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IN 176009

A1

19951223

IN 1990-DE1207

199011
30

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PRIORITY APPLN. INFO.:

IN 1990-DE1207

199011
30

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AB An improved process for the production of immobilized penicillin G acylase, useful for the production of 6-APA, is provided. Hydroxyethyl methacrylate (8.8 mL), 4-ethylstyrene (10.8 mL), divinyl benzene, (16.3 mL), and 1-dodecanol (66.0 mL) are stirred with 280 mL of distilled water and polymerized using 5.8 g of branched polyethyleneimine and 1.0 g of azo bis(isobutyronitrile) for 3 h at 70°. Spherical macroporous hydroxyethyl methacrylate terpolymer beads in phosphate buffer having molarity between 0.1 to 0.5, at a pH in the range of 7.0-7.5, are incubated with penicillin G acylase at 25° for a period 24-96 h with agitation at a rate of 100-200 rpm, the adsorbed penicillin G acylase separated by filtration, and the adsorbed penicillin G acylase crosslinked with difunctional reagents (e.g., glutaraldehyde) to immobilized penicillin G acylase. The activity of the immobilized penicillin G acylase is estimated to be 210 units.

IT 551-16-6P, 6-Aminopenicillanic acid

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation);

BIOL (Biological study); PREP (Preparation)

(crosslinking agent; improved immobilization of

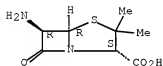
penicillin G acylase on hydroxyethyl methylacrylate terpolymer

beads and its use for the preparation of 6-aminopenicillanic acid)

RN 551-16-6 HCAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid,
6-amino-3,3-dimethyl-7-oxo-, (2S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde

628-37-9, Succinaldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinking agent; improved immobilization of

penicillin G acylase on hydroxyethyl methylacrylate terpolymer

beads and its use for the preparation of 6-aminopenicillanic acid)

RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)



RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



RN 638-37-9 HCAPLUS

CN Butanedial (CA INDEX NAME)



IT 219609-91-3P, Divinylbenzene-ethylstyrene-2-hydroxyethyl methacrylate copolymer

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation);
 BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (improved immobilization of penicillin G acylase on hydroxyethyl methacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

RN 219609-91-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with diethenylbenzene and ethenylethylbenzene (CA INDEX NAME)

CM 1

CRN 28106-30-1

CMF C10 H12

CCI IDS



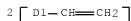
D1-Et

CM 2

CRN 1321-74-0

CMF C10 H10

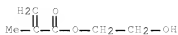
CCI IDS



CM 3

CRN 868-77-9

CMF C6 H10 O3



IT 9014-06-6, Penicillin G acylase

RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

RN 9014-06-6 HCAPLUS

CN Amidase, penicillin (CA INDEX NAME)

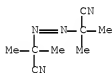
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 78-67-1, Azo bis(isobutyronitrile) 94-36-0,
 Benzoyl peroxide, uses 1338-23-4, Methyl ethyl ketone peroxide

RL: CAT (Catalyst use); USES (Uses)
 (polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

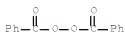
RN 78-67-1 HCAPLUS

CN Propanenitrile, 2,2'-(1,2-diazenediyl)bis[2-methyl- (CA INDEX NAME)



RN 94-36-0 HCAPLUS

CN Peroxide, dibenzoyl (CA INDEX NAME)



RN 1338-23-4 HCAPLUS

CN 2-Butanone, peroxide (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 71-36-3, 1-Butanol, reactions 108-93-0,
 Cyclohexanol, reactions 116-82-7, Cyclohexane, reactions
 111-87-5, 1-Octanol, reactions 112-53-8,
 1-Dodecanol 124-16-5, Decane 9002-39-5,

Polyvinyl alcohol 9002-96-6 9003-01-4,
Polyacrylic acid 9003-20-7, Poly vinyl acetate
9003-39-8, Poly vinyl pyrrolidone 25081-26-7, Poly
(methacrylic acid)

RL: RGT (Reagent); RACT (Reactant or reagent)
(polymerization in presence of; improved immobilization of penicillin G
acylase on hydroxyethyl methylacrylate terpolymer beads and its
use for the preparation of 6-aminopenicillanic acid)

RN 71-36-3 HCAPLUS

CN 1-Butanol (CA INDEX NAME)



RN 108-93-0 HCAPLUS

CN Cyclohexanol (CA INDEX NAME)



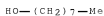
RN 110-82-7 HCAPLUS

CN Cyclohexane (CA INDEX NAME)



RN 111-87-5 HCAPLUS

CN 1-Octanol (CA INDEX NAME)



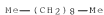
RN 112-53-8 HCAPLUS

CN 1-Dodecanol (CA INDEX NAME)



RN 124-18-5 HCAPLUS

CN Decane (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (CA INDEX NAME)

CM 1

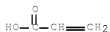
CRN 151-56-4
CMF C2 H5 N



RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



RN 9003-20-7 HCAPLUS
CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2



RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O



RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



IC ICM C12N009-84
ICS C12N011-00; C12N011-16
CC 7-7 (Enzymes)
Section cross-reference(s): 16
IT Crosslinking
Immobilization, molecular or cellular
(improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
IT 551-16-6E, 6-Aminopenicillanic acid
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(crosslinking agent; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde
636-37-9, Succinaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
IT 219609-91-3P, Divinylbenzene-ethylstyrene-2-hydroxyethyl methacrylate copolymer
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
IT 9614-06-6, Penicillin G acylase
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(improved immobilization of penicillin G acylase on hydroxyethyl

- methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
- IT 78-67-1, Azo bis(isobutyronitrile) 94-36-0, Benzoyl peroxide, uses 1338-23-4, Methyl ethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
- IT 71-36-3, 1-Butanol, reactions 108-93-0, Cyclohexanol, reactions 110-82-7, Cyclohexane, reactions 111-87-5, 1-Octanol, reactions 112-53-8, 1-Dodecanol 124-18-5, Decane 9002-89-5, Polyvinyl alcohol 9002-90-6 9003-01-4, Polyacrylic acid 9003-20-7, Poly vinyl acetate 9003-29-8, Poly vinyl pyrrolidone 25087-26-7, Poly (methacrylic acid)
RL: RGT (Reagent); RACT (Reactant or reagent)
(polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

L43 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:742175 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 138:71947

TITLE: Preparation of PVA/chitosan lipase membrane reactor and its application in synthesis of monoglyceride

AUTHOR(S): Tan, Tianwei; Wang, Fang; Zhang, Hua

CORPORATE SOURCE: Department of Biochemical Engineering, Beijing University of Chemical Technology, Beijing, 100029, Peop. Rep. China

SOURCE: Journal of Molecular Catalysis B: Enzymatic (2002), 18(4-6), 325-331

CODEN: JMCEF8; ISSN: 1381-1177

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyvinyl alc. (PVA)/chitosan (CS) composite lipase membrane was prepared in this paper, which was used for enzymic processing of fats and oils. The parameters, such as concentration of lipase, pH, and crosslinking agent as well as metal ions, which influence the immobilization of lipase in membrane, were optimized. The immobilized activity of lipase was 2.64 IU/cm² with recovery of 24%. The membrane reactor was used in a two-phase system reaction to synthesize monoglyceride (MG) by hydrolysis of palm oil, which was reused for at least nine batches with yield of 32-50%.

IT 106-89-8, Epichlorohydrin, reactions 111-30-8, Glutaraldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

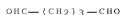
(crosslinker; preparation of PVA/chitosan lipase membrane reactor and its application in synthesis of monoglyceride)

RN 106-89-8 HCAPLUS

CN Oxirane, 2-(chloromethyl)- (CA INDEX NAME)



RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)



IT 7487-88-9, Magnesium sulfate, processes 10043-52-4
, Calcium chloride, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC
(Process)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)
RN 7487-88-9 HCAPLUS
CN Sulfuric acid magnesium salt (1:1) (CA INDEX NAME)



RN 10043-52-4 HCAPLUS
CN Calcium chloride (CaCl₂) (CA INDEX NAME)



IT 9001-62-1DP, Lipase, immobilized in PVA or PVA chitosan
copolymer membrane
RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation); PROC
(Process); USES (Uses)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)
RN 9001-62-1 HCAPLUS
CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5, Polyvinylalcohol 9012-76-4, Chitosan
287970-25-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)
RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



RN 9012-76-4 HCAPLUS
CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 287970-25-6 HCAPLUS
CN Lipase, triacylglycerol 1,3-specific (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 162856-26-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

RN 162856-26-0 HCAPLUS
CN Chitosan, polymer with ethenol, graft (CA INDEX NAME)

CM 1

CRN 9012-76-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 557-75-5
CMF C2 H4 O



CC 16-2 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7

IT 106-89-8, Epichlorohydrin, reactions 111-30-8,
Glutaraldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; preparation of PVA/chitosan lipase membrane
reactor and its application in synthesis of monoglyceride)

IT 7487-88-9, Magnesium sulfate, processes 10043-52-4
, Calcium chloride, processes
RL: BCP (Biochemical process); BIOL (Biological study); PROC
(Process)

(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

IT 9991-62-iDP, Lipase, immobilized in PVA or PVA chitosan
copolymer membrane
RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
preparation); BIOL (Biological study); PREP (Preparation); PROC
(Process); USES (Uses)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

IT 9002-89-5, Polyvinylalcohol 9012-76-4, Chitosan
287970-26-6
RL: RCT (Reactant); PACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

IT 162856-26-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:756844 HCAPLUS Full-text
DOCUMENT NUMBER: 137:68113
TITLE: Preparation of low density lipoprotein
adsorbents and their properties of adsorption
AUTHOR(S): Guo, Xianquan; Sun, Yue; Chen, You'an; Zhao,
Fenzhi; Wang, Jing; He, Binglin
CORPORATE SOURCE: Institute of Polymer Chemistry, Nankai
University, Tianjin, 300071, Peop. Rep. China
SOURCE: Zhongguo Shengwu Yixue Gongcheng Xuebao (2001), 20(4), 317-320
CODEN: ZSYXEI; ISSN: 0258-8021
PUBLISHER: Zhongguo Yixue Kexueyuan
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Three kinds of LDL adsorbent were synthesized by using polyvinyl alc. and
alginate acid as monomers, glutaric dialdehyde as crosslinking agent and Span-
80 as dispersing agent, anti-phase suspension polymerizing in mineral oil,
treating with HCl and NaOH solution, washing and drying to obtain the
products. Their adsorption properties were studied by adding the adsorbents
into the blood serum of hyperlipidemia victim, shaking at 37° for 2 h, and
measuring the concns. of total cholesterol, HDL and LDL before and after the
adsorbing process resp. The results showed that the adsorbents had better
selective for LDL (the highest adsorption rate = 54.9%), but no adsorption for
HDL.

IT 111-30-8, Glutaric dialdehyde 9002-89-5, Polyvinyl
alcohol
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological
study); PROC (Process); RACT (Reactant or reagent); USES
(Uses)
(preparation of low d. lipoprotein adsorbents and their properties of
adsorption)

RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)

ORC—(CH₂)₃—CHO

RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

H₂C=CH-OH

IT 9005-38-3DP, poly(vinyl glutaral) derivs.
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

RN 9005-38-3 HCAPLUS

CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 63-8 (Pharmaceuticals)

IT 111-30-8, Glutaric dialdehyde 9002-89-5, Polyvinyl alcohol

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

IT 9005-38-3DP, poly(vinyl glutaral) derivs.

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

L43 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 2001:625073 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 136:200933

TITLE: Preparation of PVA-alginate-Ca blends

AUTHOR(S): Li, Qinhua; Zhang, Wenyu

CORPORATE SOURCE: Institute of Biomedical Engineering, Jinan University, Canton, 510632, Peop. Rep. China

SOURCE: Jinan Daxue Xuebao, Ziran Kexue Yu Yixueban (2001), 22(3), 81-85

CODEN: JDXUET; ISSN: 1000-9965

PUBLISHER: Jinan Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The PVA-alginate-Ca with network structure was prepared by crosslinking PVA solution with glutaraldehyde, mixing with Na alginate at a ratio of 4:1 for 0.5 h, drying at 35°, and treating with 2% CaCl₂ solution. The morphol. of PVA-alginate-Ca was network structure by SEM. PVA-alginate-Ca modulus curve was observed by dynamic viscoelastometer. After crosslinking, Tg PVA and Tg alginate shifted closer to each other. The tensile strength of the polymer was 20 MPa, water content >775, and elasticity >3,505. PVA and alginate-Ca were blended at mol. level, and CaCl₂ as a crosslinking agent may increase the mutual solubility between alginate-Na and PVA.

IT 111-30-8, Glutaraldehyde 9002-89-5, Polyvinyl alcohol 9005-38-3, Sodium alginate 10043-52-4, Calcium chloride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of PVA-alginate-Ca blends)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS

CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9005-38-3 HCAPLUS

CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 10043-52-4 HCAPLUS

CN Calcium chloride (CaCl₂) (CA INDEX NAME)

CC 37-6 (Plastics Manufacture and Processing)

IT 111-30-9, Glutaraldehyde 9002-89-5, Polyvinyl

alcohol 9005-38-3, Sodium alginate 10043-52-4,

Calcium chloride, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of PVA-alginate-Ca blends)

L43 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:107898 HCAPLUS Full-text

DOCUMENT NUMBER: 134:163832

TITLE: Polymerization of monomers having ethylenic
double bonds while inhibiting scale formation
INVENTOR(S): Shimizu, Toshihide; Watanabe, Mikio; Fujimoto,
Tatsuya; Noguchi, Genji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001040006	A	20010213	JP 1999-215557	

199907
29

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PRIORITY APPLN. INFO.:

JP 1999-215557

199907
29

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AB The polymerization reactors have inner-wall coatings which are prepared by applying coatings containing OH-containing macromols. and their crosslinkers while using water vapor as carriers. Thus, a 90:10 (%) water/MeOH solution containing 100:20 (%) alkali lignin/glyoxal mixture was applied on the inner wall of a polymerization reactor while introducing water vapor as coating carriers to give a thin coating which prevented scales from adhering to the reactor walls effectively in 50-batch polymns. of vinyl chloride monomers. The resulted polymers had little fisheyes.

IT 50-00-0, Formaldehyde, uses 57-13-6, Urea, uses 77-77-0, Divinylsulfone 100-52-7, Benzaldehyde, uses 104-55-2, Cinnamaldehyde 106-89-8, Epichlorohydrin, uses 107-02-8, Acrolein, uses 107-22-2, Glyoxal 108-73-1, Melamine, uses 111-30-8, Glutaraldehyde 123-38-6, Propionaldehyde, uses 538-07-8, N-Ethylbis(2-chloroethyl)amine 623-27-8D, Terephthalaldehyde, methylated 626-19-7, Isophthalaldehyde 1072-21-5, Adipic dialdehyde 2580-77-0, Bis(β-hydroxyethyl)sulfone 3675-13-6, Maleic dialdehyde 10013-35-3, Boric acid, uses RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses) (crosslinkers; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

RN 50-00-0 HCAPLUS

CN Formaldehyde (CA INDEX NAME)



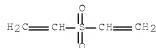
RN 57-13-6 HCAPLUS

CN Urea (CA INDEX NAME)

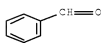


RN 77-77-0 HCAPLUS

CN Ethene, 1,1'-sulfonylbis- (CA INDEX NAME)



RN 100-52-7 HCAPLUS
CN Benzaldehyde (CA INDEX NAME)



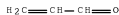
RN 104-55-2 HCAPLUS
CN 2-Propenal, 3-phenyl- (CA INDEX NAME)



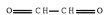
RN 106-89-8 HCAPLUS
CN Oxirane, 2-(chloromethyl)- (CA INDEX NAME)



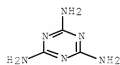
RN 107-02-8 HCAPLUS
CN 2-Propenal (CA INDEX NAME)



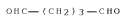
RN 107-22-2 HCAPLUS
CN Ethanedial (CA INDEX NAME)



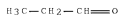
RN 108-78-1 HCAPLUS
CN 1,3,5-Triazine-2,4,6-triamine (CA INDEX NAME)



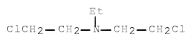
RN 111-30-8 HCAPLUS
CN Pentanedial (CA INDEX NAME)



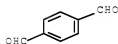
RN 123-38-6 HCAPLUS
CN Propanal (CA INDEX NAME)



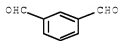
RN 538-07-8 HCAPLUS
CN Ethanamine, 2-chloro-N-(2-chloroethyl)-N-ethyl- (CA INDEX NAME)



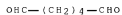
RN 623-27-8 HCAPLUS
CN 1,4-Benzenedicarboxaldehyde (CA INDEX NAME)



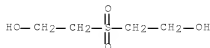
RN 626-19-7 HCAPLUS
CN 1,3-Benzenedicarboxaldehyde (CA INDEX NAME)



RN 1072-21-5 HCAPLUS
CN Hexanedial (CA INDEX NAME)



RN 2580-77-0 HCAPLUS
CN Ethanol, 2,2'-sulfonylbis- (CA INDEX NAME)



RN 3675-13-6 HCAPLUS
 CN 2-Butenedial, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.



RN 10043-35-3 HCAPLUS
 CN Boric acid (H3BO3) (CA INDEX NAME)



IT 9002-86-2P, Vinyl chloride homopolymer
 RL: IMF (Industrial manufacture); PRP (Properties); PREP
 (Preparation)
 (polymerization of ethylenic monomers in reactors with scale-preventive
 coatings prepared by water-vapor-carried spray coating)

RN 9002-86-2 HCAPLUS
 CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-01-4
 CMF C2 H3 Cl



IT 8062-15-5, Ligninsulfonic acid 8068-03-9, Alcohol
 lignin 8068-05-1, Alkali lignin 8068-16-8,
 Mercaptolignin 9000-69-5, Pectinic acid 9002-18-0
 , Agar 9002-89-5D, Poly(vinyl alcohol), partial
 hydrolyzate 9004-53-9, Dextrin 9004-57-3, Ethyl
 cellulose 9004-70-0, Nitro cellulose 9005-25-8D,
 Starch, oxidized, properties 9005-32-7, Amylose
 9007-38-7, Chondroitin sulfuric acid 9014-63-5,
 Xylan 9036-88-8, Mannan 9037-55-2, Galactan
 9045-28-7, Acetyl starch 9057-06-1, Carboxymethyl
 starch 37225-41-5, Phenol lignin 39402-48-7,
 Acid lignin 222540-65-0, Hepalin
 RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered
 material use); RACT (Reactant or reagent); USES (Uses)
 (scale-inhibitive coating; polymerization of ethylenic monomers in
 reactors with scale-preventive coatings prepared by
 water-vapor-carried spray coating)

RN 8062-15-5 HCAPLUS
 CN Lignosulfonic acid (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 8068-03-9 HCAPLUS
CN Lignin, organosolv (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 8068-05-1 HCAPLUS
CN Lignin, alkali (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 8068-10-8 HCAPLUS
CN Thioglignin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9000-69-5 HCAPLUS
CN Pectin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-18-0 HCAPLUS
CN Agar (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-89-5 HCAPLUS
CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9004-53-9 HCAPLUS
CN Dextrin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9004-57-3 HCAPLUS
CN Cellulose, ethyl ether (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-17-5

CMF C2 H6 O



RN 9004-70-0 HCAPLUS
CN Cellulose, nitrate (CA INDEX NAME)

CM 1

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7697-37-2
CMF H N O3



RN 9005-25-8 HCAPLUS
CN Starch (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-82-7 HCAPLUS
CN Amylose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9007-28-7 HCAPLUS
CN Chondroitin, hydrogen sulfate (CA INDEX NAME)

CM 1

CRN 9007-27-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9
CMF H2 O4 S



RN 9014-63-5 HCAPLUS
CN Xylan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9036-88-8 HCAPLUS

CN D-Mannan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9037-55-2 HCAPLUS

CN D-Galactan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9045-28-7 HCAPLUS

CN Starch, acetate (CA INDEX NAME)

CM 1

CRN 9005-25-8

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-19-7

CMF C2 H4 O2



RN 9057-06-1 HCAPLUS

CN Starch, carboxymethyl ether (CA INDEX NAME)

CM 1

CRN 9005-25-8

CMF Unspecified

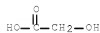
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 79-14-1

CMF C2 H4 O3



RN 37225-41-5 HCAPLUS

CN Lignin, phenol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 39402-48-7 HCAPLUS

CN Lignin, acidolysis (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 222540-65-0 HCAPLUS

CN Hepalin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C08F002-00

ICS C08F014-06

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

ST vapor carried polymer scale inhibitor coating; vinyl chloride polymn reactor scale prevention; hydroxyl contg polymer crosslinked scale inhibitor; alkalilignin glyoxal crosslinked scale inhibiting coating

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(crosslinkers; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

IT Crosslinking agents

Crosslinking catalysts

(polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

IT 50-00-6, Formaldehyde, uses 57-13-6, Urea, uses

77-77-0, Divinylsulfone 100-52-7, Benzaldehyde,

uses 104-55-2, Cinnamaldehyde 106-89-8,

Epichlorohydrin, uses 107-02-8, Acrolein, uses

107-22-2, Glyoxal 108-70-1, Melamine, uses

111-30-9, Glutaraldehyde 123-38-6,

Propionaldehyde, uses 536-87-9,

N-Ethylbis(2-chloroethyl)amine 623-27-8D,

Terephthalaldehyde, methylated 626-19-7, Isophthalaldehyde

1072-21-5, Adipic dialdehyde 2580-77-0,

Bis(β -hydroxyethyl)sulfone 3675-13-6, Maleic

dialdehyde 10043-35-3, Boric acid, uses

RL: MOA (Modifier or additive use); RCT (Reactant); RACT

(Reactant or reagent); USES (Uses)

(crosslinkers; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

IT 9002-86-2P, Vinyl chloride homopolymer

RL: IMF (Industrial manufacture); FRP (Properties); PREP (Preparation)

(polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

IT 8062-15-5, Ligninsulfonic acid 8068-03-9, Alcohol

lignin 8068-05-1, Alkali lignin 8068-10-0,

Mercaptolignin 9000-69-5, Pectinic acid 9002-18-0

, Agar 9002-89-5D, Poly(vinyl alcohol), partial

hydrolyzate 9004-53-9, Dextrin 9004-57-3, Ethyl

cellulose 9004-70-0, Nitro cellulose 9005-25-8D,

Starch, oxidized, properties 9005-82-7, Amylose

9007-28-7, Chondroitin sulfuric acid 9014-63-5,

Xylan 9036-88-8, Mannan 9037-55-2, Galactan

9045-28-7, Acetyl starch 9057-06-1, Carboxymethyl

starch 37225-41-5, Phenol lignin 39402-48-7,

Acid lignin 222540-65-0, Hepalin

RL: FRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(scale-inhibitive coating; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

L43 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:66114 HCAPLUS Full-text
 DOCUMENT NUMBER: 128:145407
 ORIGINAL REFERENCE NO.: 128:28520h,28521a
 TITLE: Method for preparing bioactive polymers
 INVENTOR(S): Margel, Shlomo; Burdygin, Irene
 PATENT ASSIGNEE(S): Bar Ilan University, Israel; Margel, Shlomo;
 Burdygin, Irene
 SOURCE: PCT Int. Appl., 68 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9802189	A2	19980122	WO 1997-IL239	19970714
<--				
WO 9802189	A3	19980507		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2260324	A1	19980122	CA 1997-2260324	19970714
<--				
AU 9733574	A	19980209	AU 1997-33574	19970714
<--				
EP 938340	A2	19990901	EP 1997-929483	19970714
<--				
R: AT, BE, DE, ES, FR, GB, IT, NL, SE				
PRIORITY APPLN. INFO.:		IL 1996-118848	A	19960714
<--				
		WO 1997-IL239	W	19970714
<--				
AB	A method to prepare a bioactive polymer by covalently binding at least one amino group containing ligand to at least one polymer containing a plurality of free hydroxyl groups, said method comprising the following steps: (i) reacting the at least one polymer with an appropriate activating agent; (ii) reacting the resultant activated polymer in aqueous solution with desired amino group containing ligands; (iii) blocking by reaction or removing by			

hydrolysis residual polymer bound-ligand unreacted, activating groups; and wherein the said activating agent and/or leaving byproducts formed by step (i) and/or by step (ii) and/or by step (iii), are swelling agents of the support polymer. The immobilized polymers are used, e.g., in wound dressings. An example is given for immobilization of proteins to cellulose via carbonyldiimidazole and other activating reagents.

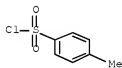
IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; preparation of bioactive polymers by
 covalent binding of amino group-containing ligands)
 RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



IT 9004-34-6, Cellulose, biological studies
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
 THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT
 (Reactant or reagent); USES (Uses)
 (preparation of bioactive polymers by covalent binding of amino
 group-containing ligands)
 RN 9004-34-6 HCAPLUS
 CN Cellulose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 98-59-9, Tosyl chloride 506-68-3, Cyanogen bromide
 520-62-1 1636-99-3, Tresyl chloride
 7631-86-9D, Silica, hydroxy-terminated, reactions
 7693-46-1, 4-Nitrophenyl chloroformate 9001-12-1,
 Collagenase 3001-63-2, Lysozyme 9002-07-7,
 Trypsin 9002-88-4D, Polyethylene, hydroxy-terminated
 9002-89-5, Polyvinyl alcohol 9041-36-5, Sephadex
 G-200 41864-22-6, 1H-1,2,4-Triazole, 1,1'-carbonylbis-
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of bioactive polymers by covalent binding of amino
 group-containing ligands)
 RN 98-59-9 HCAPLUS
 CN Benzenesulfonyl chloride, 4-methyl- (CA INDEX NAME)

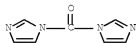


RN 506-68-3 HCAPLUS
 CN Cyanogen bromide ((CN)Br) (CA INDEX NAME)



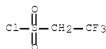
RN 530-62-1 HCAPLUS

CN Methanone, di-1H-imidazol-1-yl- (CA INDEX NAME)



RN 1648-99-3 HCAPLUS

CN Ethanesulfonyl chloride, 2,2,2-trifluoro- (CA INDEX NAME)



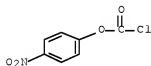
RN 7631-86-9 HCAPLUS

CN Silica (CA INDEX NAME)



RN 7693-46-1 HCAPLUS

CN Carbonochloridic acid, 4-nitrophenyl ester (CA INDEX NAME)



RN 9001-12-1 HCAPLUS

CN Collagenase (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9001-63-2 HCAPLUS

CN Lysozyme (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9002-07-7 HCAPLUS

CN Trypsin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



RN 9002-89-5 HCAPLUS
 CN Ethanol, homopolymer (CA INDEX NAME)

CM 1

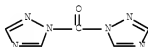
CRN 557-75-5
 CMF C2 H4 O



RN 9041-36-5 HCAPLUS
 CN Sephadex G 200 (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 41864-22-6 HCAPLUS
 CN 1H-1,2,4-Triazole, 1,1'-carbonylbis- (CA INDEX NAME)



IC ICM A61K047-48
 CC 63-8 (Pharmaceuticals)
 IT Crosslinking agents
 Immobilization, biochemical
 (preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 9004-34-6, Cellulose, biological studies
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
 (preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 98-59-3, Tosyl chloride 506-68-3, Cyanogen bromide 530-62-1 1648-99-3, Tresyl chloride 7631-86-9D, Silica, hydroxy-terminated, reactions 7693-45-1, 4-Nitrophenyl chloroformate 9001-13-1, Collagenase 9001-63-2, Lysozyme 9002-07-7, Trypsin 9002-88-4D, Polyethylene, hydroxy-terminated 9002-89-5, Polyvinyl alcohol 9041-36-5, Sephadex G-200 41864-22-6, 1H-1,2,4-Triazole, 1,1'-carbonylbis-
 RL: RCT (Reactant); PACT (Reactant or reagent)

(preparation of bioactive polymers by covalent binding of amino
group-containing ligands)

=>